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EFFECTS OF INTELLECTUAL HABITS, LEISURE AND PHYSICAL ACTIVITY OVER THE AGE OF ONSET AND EVOLUTION OF DEMENTIA DUE TO ALZHEIMER'S DISEASE

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Objectives: To investigate whether intellectual, physical or leisure activities have an impact over age of onset or progression of Alzheimer's disease (AD).
Methods: A total of 129 patients (87 female, 42 male) with late-onset AD were surveyed. Activities considered had to be non-work related, happen before age 60 years-old, and be of at least moderate intensity (>=3 METS), involving equivalents to walking or running at least 2 km per week for 5 years or 1 km per week for 10 years, engaging in other physical activities for at least 1 hour per week for 5 years or 30 min per week for 10 years, reading at least 1 hour daily for 5 years or 30 min daily for 10 years, and leisure activities at least once weekly for more than 10 years. Mini-Mental State Examination (MMSE) and Clinical Dementia Rating (CDR) were used to evaluate the evolution of the dementia syndrome. Schooling and body mass index (BMI) were considered as confounding variables. Fisher's exact test was employed for statistical analysis, with the threshold of significance set at $\rho<0.05$.
Results: Estimated age of AD onset ranged from 60 to 88 years-old. Overall, 44 patients (34.1%) had a history of involvement with physical activity, 44 patients (34.1%) had intellectual habits, and 51 patients (39.5%) reported leisure activities of various kinds. Schooling in excess of 8 years had a significant effect over a slower rate of disease progression according to MMSE scores ($\rho=0.035$), but not according to CDR ($\rho=0.071$). BMI had no significant effect either by way of MMSE scores ($\rho=0.428$) or CDR scores ($\rho=0.569$). There was only a marginally significant effect of leisure activities ($\rho=0.06$) over progression of AD according to MMSE scores, but not according to CDR (0.484), and no other isolated significant relations were found among any of the surveyed activities. However, patients who were largely involved in leisure, physical and intellectual activities throughout life had a lesser chance of evolving with AD onset before age 80 years-old ($\rho=0.001$).
Conclusion: Subjects who were concurrently engaged in various intellectual, physical and leisure activities earlier during their lives were less likely to develop AD dementia before turning 80 years-old; no effect of such non-work related activities was found in regard to the rate of disease progression, assessed by way of MMSE and CDR scores.

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